OPHTHALMOLOGY.

UNDER THE CHARGE OF
EDWARD JACKSON, A.M., M.D.,
OF DENVER,
AND
T. B. SCHNEIDEMAN, A.M., M.D.,
PROFESSOR OF DISEASES OF THE EYE IN THE PHILADELPHIA POLYCLINIC.

Tuberculosis of the Cornea.—GREEFF (*Fortsch. d. Med.*, No. 22, 1901). While tuberculosis of the cornea does not occur so frequently as tuberculosis of the conjunctiva and uveal tract, late researches have shown that it is not so very rare. In 1879 Hænsell showed experimentally that the injection of tubercular matter into the cornea of the rabbit and guinea-pig caused an outbreak of tubercles. He, however, doubted the occurrence of primary tuberculosis of the cornea. It is now certain that this occurs, although it is much more frequent as a secondary process following primary tuberculosis of the uveal tract.

The clinical picture of tubercular disease of the cornea shows great variations. In some cases a typical parenchymatous keratitis occurs. In such cases the primary tubercular nodules are situated in the iris, and especially in the ligamentum pectinatum. According to Bach, the parenchymatous inflammation is caused by diffusion of the toxins of the bacilli within the corneal tissue. The original nodules in the ligamentum pectinatum may also extend into the cornea.

More frequently the affection takes the form of so-called sclerotizing keratitis. In such cases tubercular nodules very gradually penetrate into the deepest layers of the cornea.

In primary tuberculosis of the cornea the nodules arise in the sclerocorneal junction or in the most peripheral portion of the cornea itself. These nodules extend very gradually a little into the cornea, and heal with obliteration of the corneal margin in loco eruptionis, or leave a tongue-like, grayish-white opacity extending into the cornea.

Ulcerations of the cornea are also occasionally tubercular. Such torpid richly vascular ulcers are most frequently found when lupus of the face extends to the cornea

It is noteworthy that tubercle bacilli grow with great difficulty in the tissue of the cornea, so that in undoubted cases of tuberculosis the bacilli can very rarely be found in the cornea itself. The evidence of a tubercular nature in these cases is only the histological examination, or Cohnheim's experiment, that is inoculation of a particle in the anterior chamber of a rabbit.

The Clinical and Anatomical Fundus Changes in a Case of Splenic Leukæmia.—Since Liebreich's first description of the retinal conditions in three cases of leukæmia forty years ago the ophthalmoscopic findings in this disease have been quite numerously reported. The anatomical changes in the retina, on the other hand, have been rarely recorded, so that every such case histologically examined must be regarded as a not unimportant contribution, especially, if as in the case to be reported, besides confirming some points already known, changes not yet observed are brought to light.

BONDI (*Prag. med. Woch.*, No. 26, 1901) reports the ophthalmoscopic appearances and histological changes observed in a case of splenic leukæmia. Male, aged thirty-four years, entered the hospital February 6, 1893; death took place December of the same year. The patient had noticed in April, 1892, ten months before admission to the hospital, a firm, slowly increasing growth in the upper part of the abdomen on the left side. There was a dull pain, and in walking a feeling of fulness, frequent bleeding from the nose and gums. Examination of the internal organs showed enormous enlargement of the spleen, moderate dilatation of the heart, slight enlargement of the liver, especially of the right lobe. The blood-count gave a ratio of white to red cells as one to four, which afterward increased to one to three.

Ophthalmoscopical examinations were repeatedly made. Upon admission to the hospital the visual acuity in both eyes was normal. There were no subjective ocular symptoms. Pathological changes in the fundus began in the middle of May. These consisted of abnormal fulness of the veins and a small hemorrhage between the papilla and the macula. The visual acuity and field remained even yet entirely normal. May 28th there was great enlargement of all the retinal veins in both eyes and a small retinal hemorrhage in the right eye; no other abnormal findings. The color of the fundus was not changed from the normal. October 11th a change in the papillæ could be noted for the first time. The edges of both were indistinct, the right somewhat more so than the left. The veins were tortuous and enlarged; visual acuity in both eyes 6/18. November 5, papillæ pale, margins indistinct, veins enormously enlarged. November 17th, small, whitish-yellow spots scattered in a large radius about the papillæ, extending far into the periphery of the fundus, the veins being enormously enlarged and tortuous. The color of the fundus hardly changed; the large vessels were, however, somewhat paler than normal; visual acuity 6/36 (?) in both eyes. No decided change occurred in the ophthalmoscopical findings up to the time of death. The last examination was made fourteen days before death.

The autopsy showed leukæmia, swelling of the liver and spleen, leukæmic infiltration of the medulla of the bones, and multiple infarcts of the spleen.

Histological findings of the intra-ocular structures: Papillæ slightly swollen. It was, however, the retina which showed the most marked changes. Its enormously dilated vessels were filled to bursting with blood; in some it was hardly possible to find a single red corpuscle. Where a relatively large number of red blood cells existed the red cells occupied the centre and the leucocytes the peripheral portion of the vessel. The blood contents presented another important phenomenon—intravital coagulation. Some vessels of medium calibre in the equatorial region were entirely thrombosed. The perivascular lymph spaces were everywhere enlarged and often filled with leucocytes. Accumulations of pigment were also sparsely found